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**PROGRESS REPORT - OPERABLE UNIT 1 - WASTE PIT AREA -  
MARCH 1995**

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Environmental Management Project

# Remedial Investigation/ Feasibility Study

PROGRESS REPORT

MARCH 1995

## Operable Unit 1 WASTE PIT AREA

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### Introduction

The Remedial Investigation/Feasibility Study (RI/FS) is the blueprint for cleanup at the U.S. Department of Energy's Fernald Environmental Management Project. The objective of the Remedial Investigation is to develop a comprehensive understanding of the nature of stored waste materials, the extent to which the surrounding environment has been impacted, and the potential threat that the materials and contaminated media pose to human health and the environment.

The Feasibility Study utilizes the data provided in the Remedial Investigation report to develop and evaluate cleanup alternatives that are protective of human health and the environment.

To promote a structured and expeditious cleanup of the Fernald site, the facility and the environmental issues associated with it have been segmented into five operable units. Operable unit is a term used to logically group similar environmental issues at a cleanup site. Separate RI/FS documentation, including RI and FS reports and Records of Decision, will be issued for each of Fernald's five operable units.

A Record of Decision is issued by the U.S. EPA, and is the document that formally presents the selected remedial action for an operable unit and the basis for that selection.

Following is a progress report on Operable Unit 1 including its history, the current status of RI/FS activities, and the selected remedial action.

### Background

Operable Unit 1 consists of Waste Pits 1, 2, 3, 4, 5, and 6; the Burn Pit (used for the disposal and burning of waste); the Clearwell (a settling basin for surface water runoff); miscellaneous structures and facilities such as berms, liners, concrete pads, underground piping, utilities, railroad tracks, fencing; and soil within the Operable Unit 1 boundary.

Operable Unit 1 is located in the northwest quadrant of the Fernald site (west of the former production area) and covers approximately 37 acres. Paddy's Run, an intermittent tributary of the Great Miami River, runs along the west side of Fernald property between Operable Unit 1 and the site boundary.

The six waste pits, built between 1952 and 1979, were used for storing wastes generated by the various chemical and metallurgical processes used at the facility for uranium production operations. Two types of disposal methods were generally used in placing wastes into the pits: (1) a "wet" system for slurries where the wastes were pumped to the pit, and (2) "dry" backfill-type operations. All pits have been closed and no waste has been placed in any of the pits since the mid-1980s.

Waste Pits 1, 2, and 3 are capped with soil and a vegetative cover. Waste Pit 4 is covered with a synthetic cap. Waste Pits 5, 6, and the Clearwell have a water cover. The pits range in size from that of a baseball diamond to a football field and vary in depth from 13 to 30 feet. It is estimated that in excess of 600,000 cubic yards of contaminated materials will be associated with the cleanup of the waste pits.

### RI/FS Activities

The Remedial Investigation (RI) report, and the Feasibility Study/Proposed Plan (FS/PP) for Operable Unit 1 have been approved by U.S. EPA. Data obtained from the Remedial Investigation were used in the Feasibility Study to develop, screen, and evaluate remedial technologies and alternatives for potential implementation to address identified environmental concerns. The purpose of the Feasibility Study report is to evaluate a range of available remedial action alternatives for permanent disposition of the Operable Unit 1 waste pit materials and associated contaminated environmental media, and to provide a basis for selection of the remedy.

In August 1994, the Final Proposed Plan for

Operable Unit 1 was published. The Proposed Plan summarized information from the Remedial Investigation and Feasibility Study reports, and the Baseline Risk Assessment, and identified the preferred remedial alternative for Operable Unit 1 and the rationale for the preference. The purpose of the Proposed Plan was to facilitate public participation in the Operable Unit remedy selection process. DOE held a public meeting August 23, 1994, and a 30-day public comment period was held in August/September 1994.

The Final Record of Decision for Operable Unit 1 was signed by DOE on January 24, 1995, and by U.S. EPA on March 1, 1995. Ohio EPA concurrence on the selected remedy presented in the Operable Unit 1 Final Record of Decision was received February 24, 1995. A response to comments received during the 30-day public comment period is included in the Responsiveness Summary, which is part of the Final Record of Decision.

The Operable Unit 1 Remedial Design Work Plan is currently being developed for submittal to U.S. EPA by May 1, 1995.

#### **Dewatering Excavation Evaluation Program (DEEP)**

The Dewatering Excavation Evaluation Program (DEEP), is a short-term field program aimed at determining the best technique to excavate the waste pit material. The field work will involve digging trenches in Waste Pits 1, 2, and 3 to test various types of excavation equipment and methods. Several different techniques are available for excavating wastes like those found in Operable Unit 1, and the DEEP tests will help identify the most efficient method.

Phase I of DEEP, which involved taking samples via borings to obtain data on the engineering properties of the wastes in the pits, and soils in the area, was completed in November 1994.

Phase II of the field work for the DEEP project, which was initiated in February 1995, con-

sists of wet excavation activities in Waste Pits 1, 2, and 3. Although they are covered with soil, these waste pits contain water saturated wastes. Because wet excavation presents special challenges, the field program will provide information on the best way to remove water from the excavation area and help identify the best methods and equipment for excavation. Four excavations were performed in February 1995, one in each of Waste Pits 1 and 2, and two in Waste Pit 3. Three additional excavations, for slurry tests, are scheduled to begin in March 1995, one in each of Waste Pits 1, 2, and 3.

Prior to any of the Phase II excavations, affected surfaces will have been graded to control water drainage. In addition, dust controls measures will have been put in place, and monitors are positioned to check for emissions. The integrity of the waste pit liners will not be affected by this program.

#### **Selected Remedial Action**

The primary components of the selected remedy for Operable Unit 1, as identified in the Final Record of Decision for Remedial Actions at Operable Unit 1, include the excavation of the waste pit contents, waste processing and treatment by thermal drying, and off-site disposal at a permitted commercial disposal facility.

#### **For More Information**

Additional information about Operable Unit 1 is available in the Public Environmental Information Center (PEIC), where Fernald Project cleanup documents are kept in the Administrative Record. The PEIC is located in the JAMTEK building, 10845 Hamilton-Cleves Highway, Harrison, Ohio, 45030. The telephone number is (513) 738-0164. The hours are 9 a.m. to 7 p.m. Monday and Thursday; 9 a.m. to 4:30 p.m. Tuesday, Wednesday, and Friday, and 9 a.m. to 1 p.m. Saturday.